valentin
ETIKETTENDRUCKSYSTEME

English

Service manual

Thermal Transfer Printer
Desco type

79.69.025 • 12 December 1997

Carl Valentin GmbH • Neckarstraße 78-80 & 94 • 78056 VS-Schwenningen
support@valentin-carl.de • http://www.valentin-carl.de

Table of contents

1. Block circuits 1
1.1. Block circuit CPU 1
1.2. Block circuit power unit 2
1.3. Wiring diagram 3

2. Electronics 4
2.1. Check points 4
2.1.1. Voltage supply power board 4
2.1.2. Voltage supply CPU 4
2.1.3. Photocells 5
2.1.4. Clock signals 9
2.1.5. Strobe signals 9
2.1.6. Motor signals 10
2.1.7. External control inputs / outputs 11
2.2. Component parts of CPU 12
2.3. Component parts of power supply 13
2.4. Changing of fuses 14
2.4.1. Primary fuse 14
2.4.2. Secondary fuse 14
2.5. Service monitor 15
2.5.1. Valuation of label parameters 15
2.5.2. Error message: label error 16
2.5.3. Error elimination 17
2.5.4. Monitor 17

3. Mechanics 18
3.1. Exchange of printhead 18
3.2. Adjustment of printhead 19
3.2.1. Parallelity 19
3.2.2. Pressure 19
3.3. Cleaning of printhead and pressure roll / increase pressure 20
3.4. Exchange lower pressure roll 22
3.5. Exchange upper ribbon tension roll 24
3.6. Exchange of ribbon unwinding roll 25
3.7. Exchange of O-belt 26
3.8. Exchange of cogged belt 28
3.8.1. Standard (version 4) 28
3.8.2. Version: unwinding roll inverse 30
3.8.3. Thermal version 31
3.8.4. Version 1 31
3.8.5. Version 2 32
3.8.6. Version 3 32

3.9. To oil and lubricate 33
3.10. Option cutter 34
3.10.1. Moveable cutter / exchange of cutter ledge.....34
3.10.2. To adjust cutter 36
3.10.3. Exchange of synchroflex drive.....37
3.11. Option dispenser.....38
3.12. Option date / time 39
3.13. Option external inputs / outputs.....40

4. Possible sources of error 41
4.1. Error messages on the display 41
4.2. General errors.....44

1. Block circuits

1.1. Block circuit CPU

The corresponding plan is available on demand.

1.2. Block circuit power unit

The corresponding plan is available on demand.

1.3. Wiring diagram

The corresponding plan is available on demand.

2. Electronics

2.1. Check points

2.1.1. Voltage supply power board

check point		description	value
JP9	PIN 1,2,3	VCC	5V
JP9	PIN 4,5	VDD	5V
JP9	PIN 6,7,14	GND	0V
JP7	PIN 1-4	VH	18V
JP7	PIN 5-8	GND	0V
JP6	PIN 3	12V	12V
JP5	PIN1	VM	29V
R30	right PIN	VG	29V
R30	left PIN	VR	11,5V

2.1.2. Voltage supply CPU

check-point		description	value
JP4	PIN 1,2	VCC	5V
JP4	PIN 4,5	VDD	5V
JP4	PIN 6,7,14	GND	0V
JP4	PIN 8	SUPPLY 1	14V
JP4	PIN 9,10	12V	12V

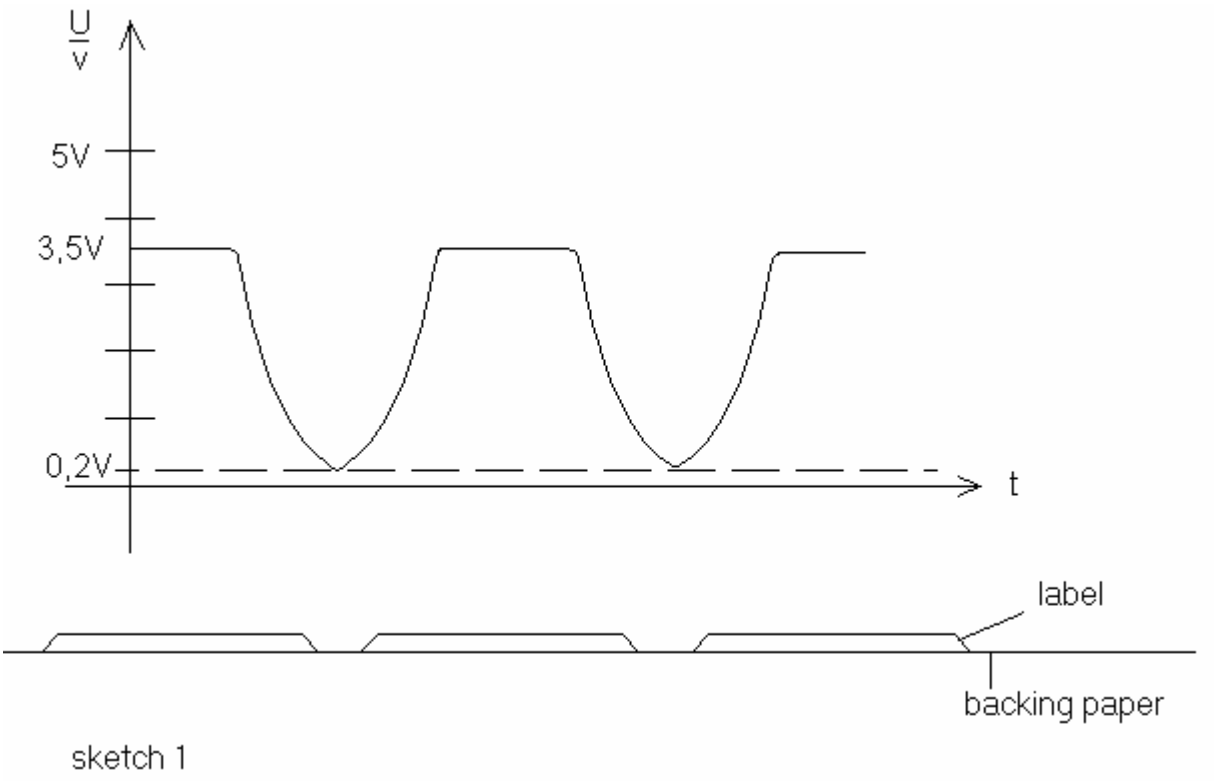
2.1.3. Photocells

Label photocell: Transmission

JP10:	PIN 1	VSS	~1,2V
	PIN 2	INP	} see below
	PIN 3	INP	
	PIN 4	GND	0V

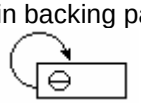
Depending on the transparency of the label res. backing paper the voltage at the input of the AD-converter is changing.

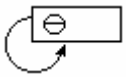
In sketch 1 a typical voltage wave form at "INP" is shown (measurable at V23 PIN3 too).



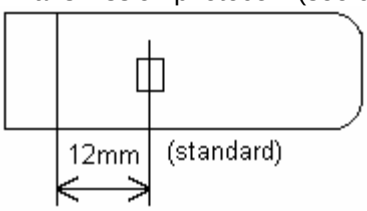
sketch 1

In case the adjusted value of of the sending current of the photocell is not sufficient, e.g. when using extremely thick or thin backing paper, it can be adjusted by changing P2.

Rotation to the right  adjustment for thick backing paper

Rotation to the left  adjustment for thin backing paper.

The "INP"-level can be displayed in the menu item "Parameter of the label photocell" under "Transmission photocell" (see chapter "2.5.4. Monitor").

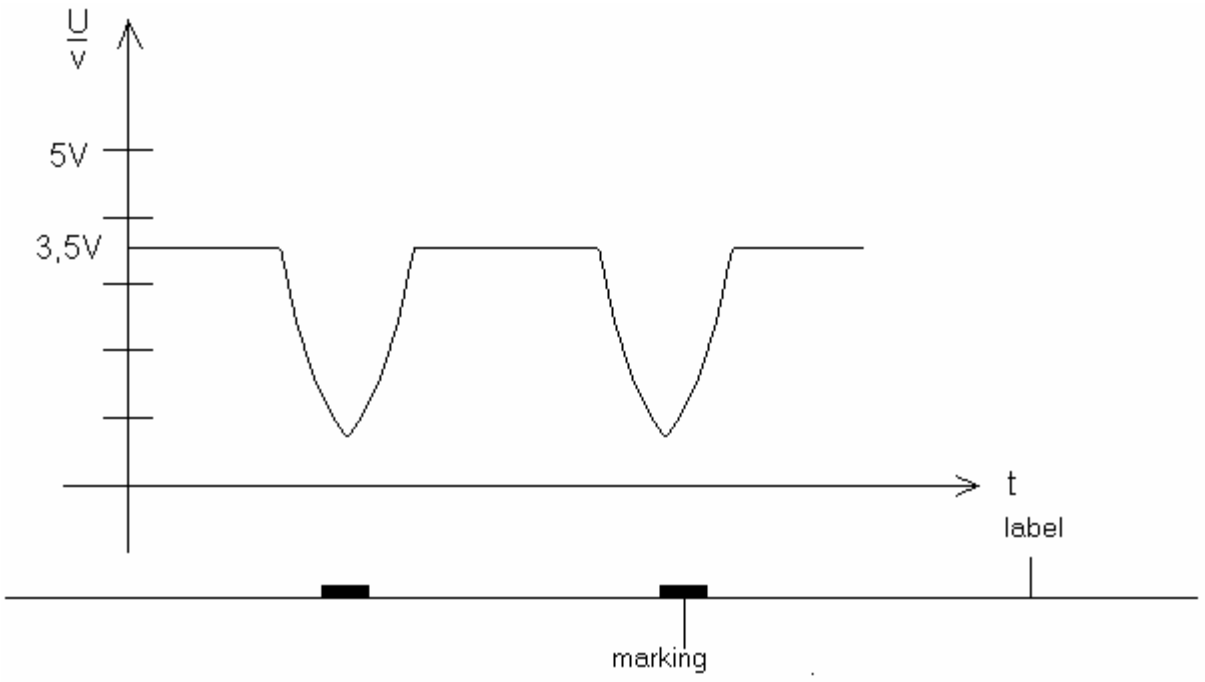


measurement of photocell

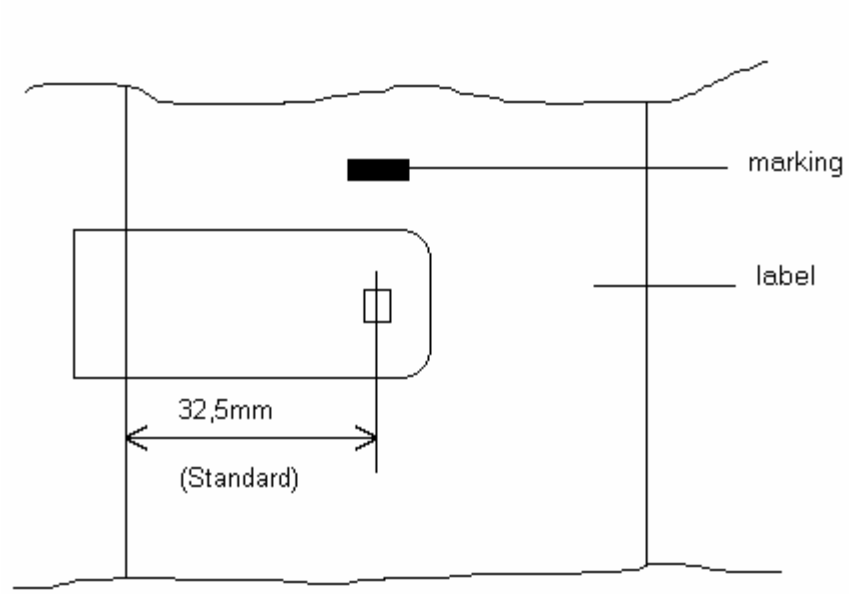
Label photocell: reflection

JP11:	PIN 1	VCC	5V
	PIN 2	INP	see sketch
	PIN 3	VSS	~ 2V
	PIN 4	GND	0V

The voltage wave form at "INP" is similar to the one described under A.



It has to be considered that the marking for the reflection photocell must be in a distance of 32,5 mm to the interior rim, so that the photocell recognizes the marking.

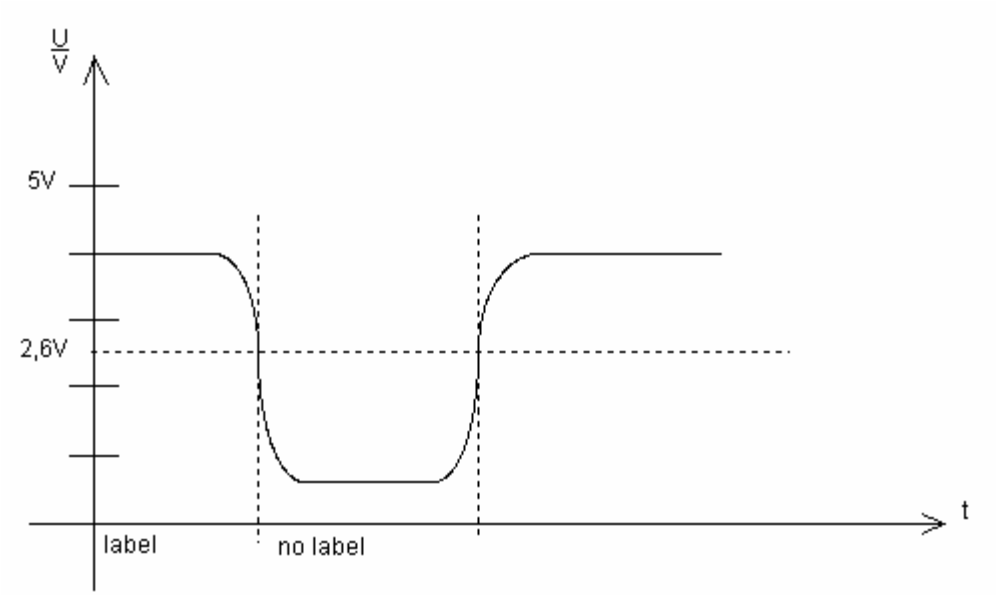


The "INP"-level can be displayed in the menu item "Parameter of the photocell" under "Reflection photocell" (see chapter "2.5.4. Monitor"). The marking should have a size of at least 7 mm x 3 mm or bigger.

Dispensing photocell

JP12:	PIN 1	VCC	5V
	PIN 2	INP	see sketch
	PIN 3	VSS	~ 1,2V
	PIN 4	GND	0V

The typical voltage wave form at "INP" (measurable at V23 PIN 5 too) is shown in sketch 3.



As standard a level of 2,6 V is adjusted. If a label is under the dispensing photocell, the level at "INP" must be higher than 2,6 V. If the label is being removed, the voltage must lower under 2,6 V.

In some cases it is necessary to change the level of the dispensing photocell. This can be done in the menu item "Printer initialization - LS-Dispenser level".

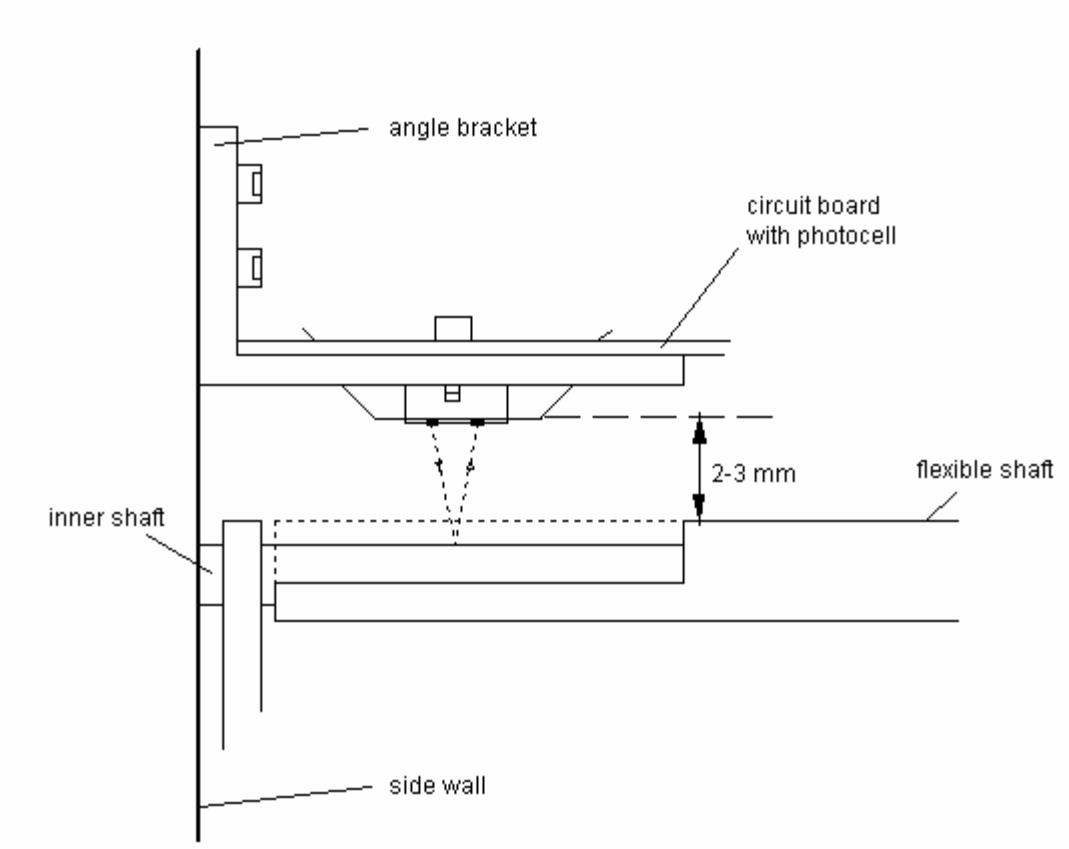
The "INP"-level can be displayed in the menu item "Parameter of the label photocell" under "Dispensing photocell" (see chapter "2.5.4. Monitor").

Ribbon control

JP9:	PIN 1	VCC	5V
	PIN 2	INP	High res. Low
	PIN 3	VSS	~ 1,2V
	PIN 4	GND	0V

The photocell "ribbon control" checks if the ribbon is moving. By that alterate high- and low signals are measurable at "INP", which should have a ratio as much as possible of 1:1. (The ribbon control works with a ratio of 1:2, too).

The photocell has to be adjusted and should be fixed as shown in the sketch below.



As long as the photocell sends light onto the inner shaft, "High" results. In case the photocell sends light onto the flexible shaft (black), "Low" results.

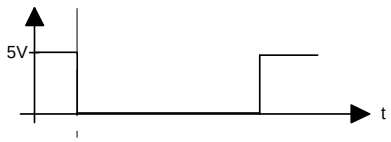
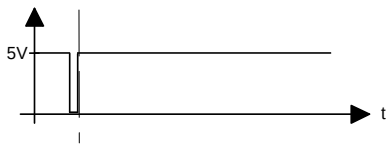
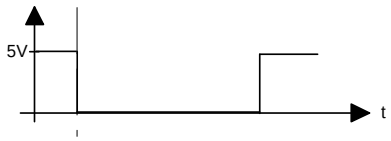
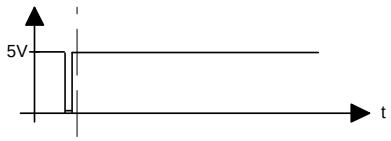
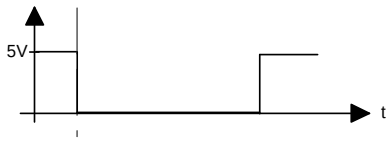
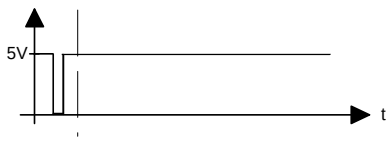
The "INP"-level can be displayed in the menu item "Parameter of the photocell" under "transfer ribbon photocell" (Hi or Lo) (see chapter "2.5.4. Monitor").

Attention: Inner shaft should not be soiled.

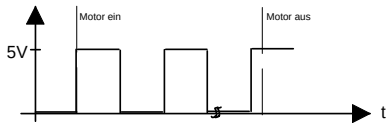
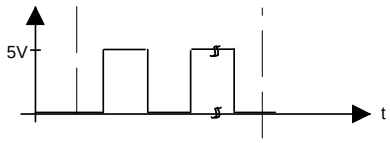
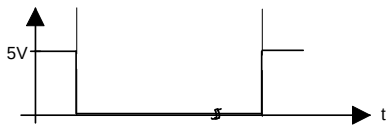
2.1.4. Clock signals

check point		description	value
U8	PIN78	CLK CPU	20MHz
	PIN79	CLK CPU	
U25	PIN3	RESET	0V
	PIN5	RESET	~ 5V
U11	PIN3	NMI	0V

2.1.5. Strobe signals

check point		description	value
U24	PIN7	Strobe1	
	PIN9	Latch1	
	PIN12	Strobe2	
	PIN14	Latch2	
	PIN16	Strobe3	
	PIN17	Latch3	

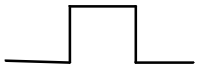
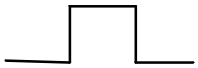
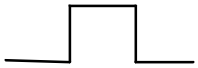
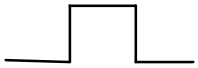
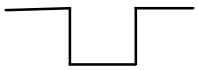
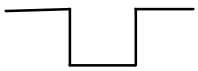
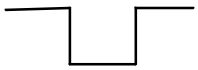
2.1.6. Motor signals

check point (CPU)		description	value
U19	PIN15	VOR A	
	PIN12	VOR B	
	PIN9	FR VOR	

"VOR A" and "VOR B" are two rectangular signals by 90° displaced phases.

check point (power supply)		description	value
JP9	PIN15	VOR A	(see above)
	PIN16	VOR B	
	PIN17	FR VOR	

2.1.7. External control inputs / outputs

check point		description	value
4 x IN		ext. input pulse	
U12	PIN4	INPUT 1	
	PIN6	INPUT 2	
	PIN8	INPUT 3	
	PIN10	INPUT 4	
4 x OUT			
U22	PIN2	OUTPUT 1	
	PIN3	OUTPUT 2	
	PIN6	OUTPUT 3	
	PIN7	OUTPUT 4	

2.2. Component parts of CPU

The corresponding plan is available on demand.

2.3. Component parts of power supply

The corresponding plan is available on demand.

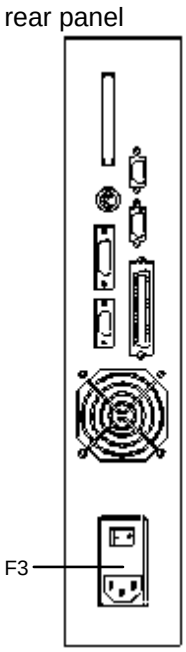
2.4. Changing of fuses

2.4.1. Primary fuse

The primary fuse is in the power line filter block and accessible from outside.
After plugging out the cover can be removed. There behind you will find the fuse-switch, which has to be drawn near to change the fuse.

F: fine-wire fuse T1,0A

power line filter block

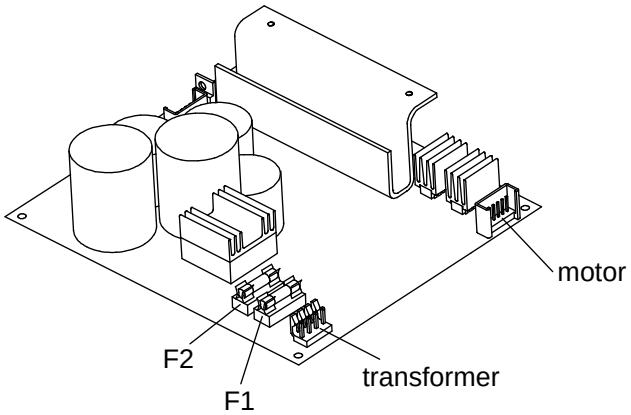


2.4.2. Secondary fuse

Attention: The machine should only be opened by competent staff.
Plug out before removing the left cover.

After removing the left cover a further cover plate is visible. There behind you will find the power supply board with 2 secondary fuses.

F1: fine-wire fuse T 1,0 A fuse for 5 V and 12 V supply
F2: fine-wire fuse T 10,0 A fuse for motor voltage (29 V) and burning voltage (18 V)

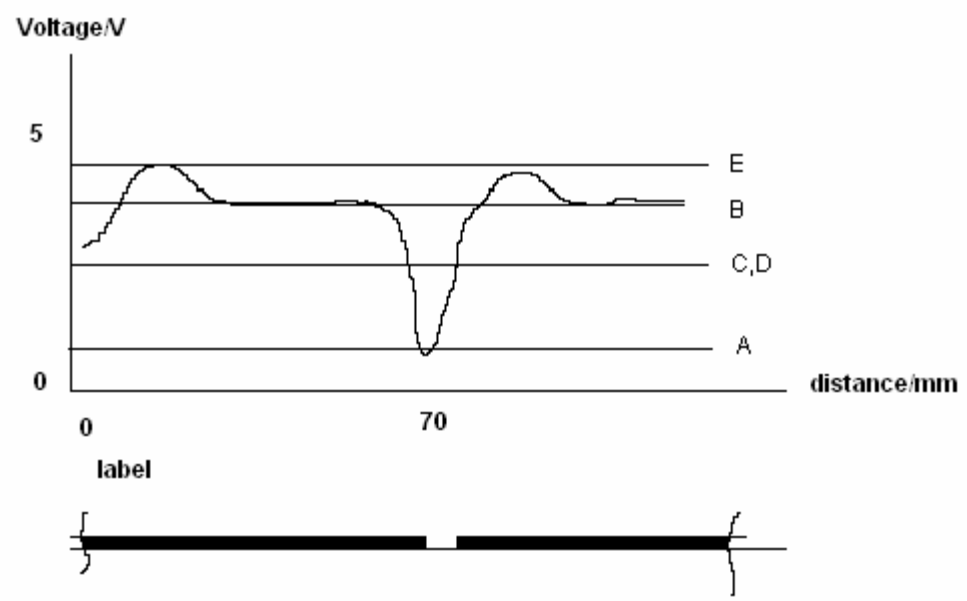


2.5. Service monitor

2.5.1. Valuation of label parameters

In function menu "Parameter of label photocell" you will find the service monitor, by which the photocells can be checked res. adjusted.
When measuring the labels the values will be displayed in the first line, thereby the following measured voltages are shown:

A: absolute minimum (measured on backing-paper)
B: smallest maximum (measured on label)
C: upper switching level
D: lower switching level
E: highest measured voltage (most ~5 V)



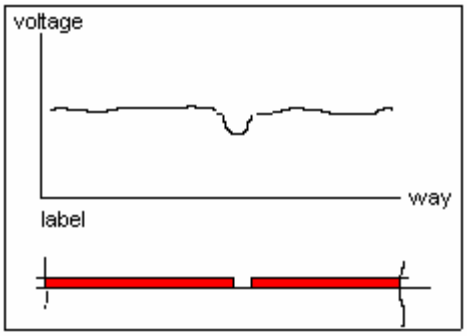
The sketch illustrates the voltage wave form of the label photocell while measuring the labels.
The difference between "A" and "B" should be at least 1,5 V.

2.5.2. Error message: label error

Possible reasons of this error message "Label error" are the following:

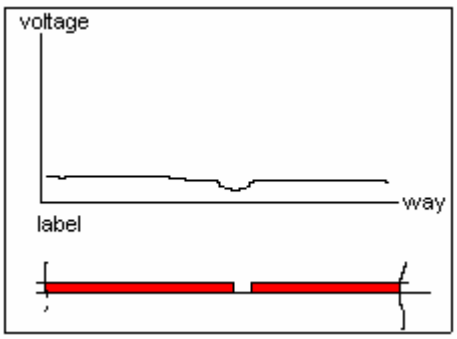
Too thick res. opaque backing paper

In this case the value of A will be too high. This means, that the printer cannot distinguish between label and backing paper.



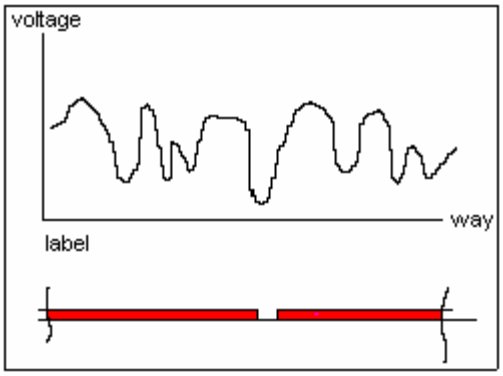
Very thin labels

In this case the value of E res. B is too low, so the printer cannot distinguish between backing paper and labels.



Pre-printed label with strong differences in contrast

Pre-printed labels are a particular problem. Here the fluctuations of voltage on the label while measuring are very high. In this case the value of B will be very small. In case the difference between B and A is too small, the printer is not able to measure the label.



2.5.3. Error elimination

In case the photocell already had been adjusted so that the difference between A and B has received the highest possible value (as described in chapter "2.1.3. Photocells"), the "sensitivity of the label photocell" can be adjusted.

2.5.4. Monitor

After activating the key again in menu "Parameter of label photocell", the photocell monitor will be activated.
On the display of the printer the following appears:

The digit represents the measured voltage;
the black bar represents the measured voltage as graph;
the last character shows the position of the photocell:

+	above label
-	above backing paper
0	at the edge label - backing-paper

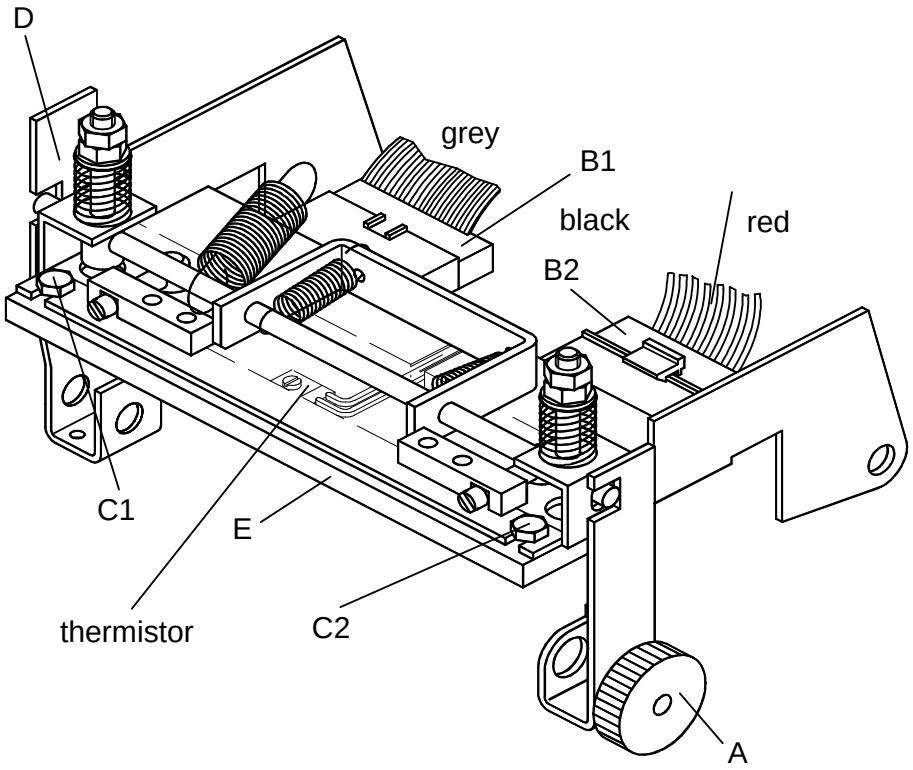
The monitor serves to check the label photocell to its function. As well it is possible to move the label manually under the photocell to obtain an idea of the voltage wave form and to be able to judge, if the label can be measured.

The difference of backing-paper and label should be higher than 1,5 V
(see chapter "2.1.3. Photocells").

After activating the key again "Reflexion photocell" appears for checking the reflexion photocell
(see chapter "2.1.3. Photocells")
then: "Dispensing photocell 3" (see chapter "2.1.3. Photocells")
"Printhead temp. XX degrees (Printhead temperature)
"Ribbon photocell" (Hi or Lo) (see chapter "2.1.3. Photocells")

3. Mechanics

3.1. Exchange of printhead



Attention: Before working at the printhead:
Accomplish safety control against electrostatic charge!

- ▹ Switch off machine, plug out!
- ▹ Lift printhead bracket with printhead by turning knurled knob (A) clockwise.
- ▹ Pull off printhead plug (B1, B2) including cables.
- ▹ Considering machines with dispenser: screw off dispenser photocell.
- ▹ Unscrew screws (C1, C2) about 3 rotations by a ring spanner, thereby pay attention to the position of printhead for the purpose of reinstallation.
- ▹ Press latch lever (D) backwards and draw off printhead (E) to the front.

Installation:

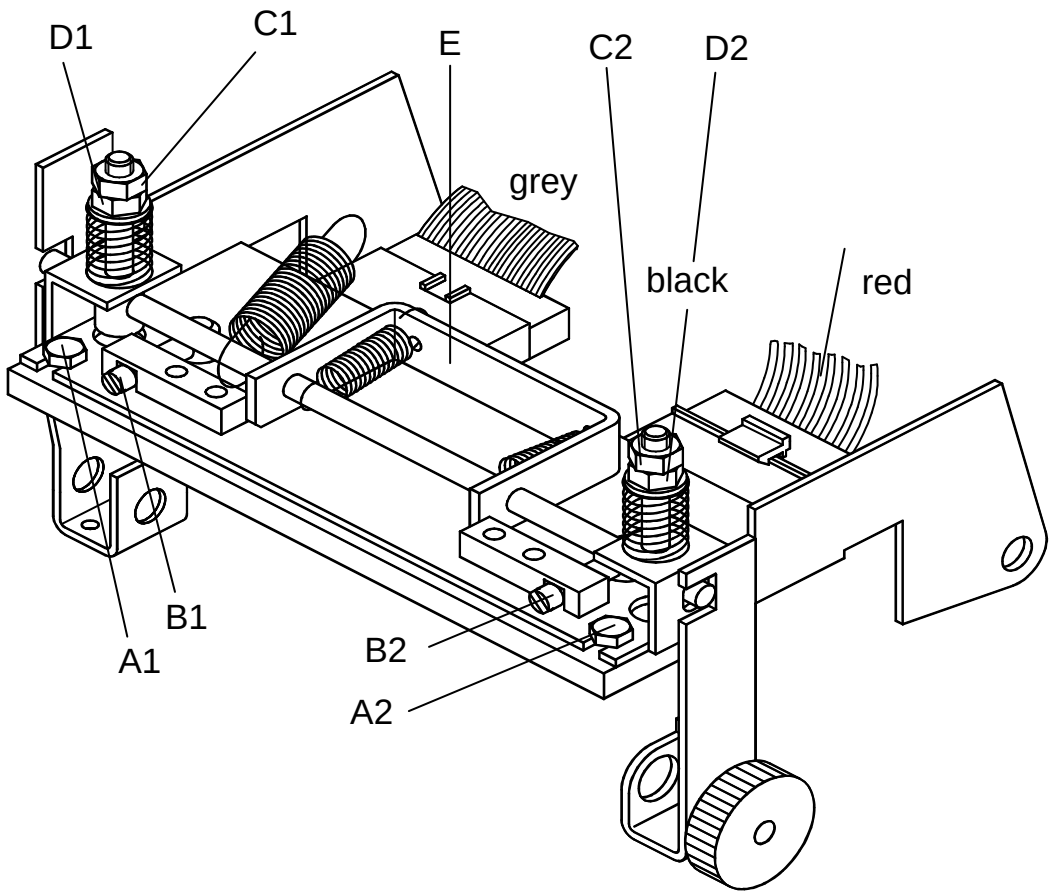
Install the new printhead with placed screws (C) in opposite order.

Attention: Do not touch the contacts of the printhead

While installing pay attention that termistor cable lies in the cut-out provided for

Pay attention to the correct fit of the printhead (guiding!)

3.2. Adjustment of printhead



3.2.1. Parallelity

- ▹ Loosen screws (A1, A2) about 1/2 rotations with ring spanner.
- ▹ Adjust parallelity by screws (B1, B2).
- ▹ Depending on the print quality adjust more, until the print quality is correct.
- ▹ Tighten screws (A1, A2) again.

3.2.2. Pressure

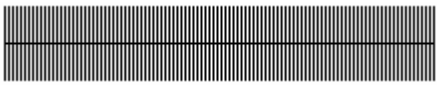
Avoid increase of printhead pressure as much as possible, because a pressure too high damages the printhead and decreases its life time.

Print quality too faint (even when using highest contrast):
Release lever (E) or after loosening counter nuts (C1, C2) increase the pressure with adjusting nuts (D1, D2).

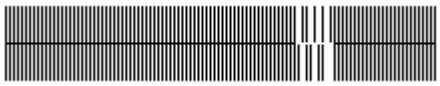
3.3. Cleaning of printhead and pressure roll / increase pressure

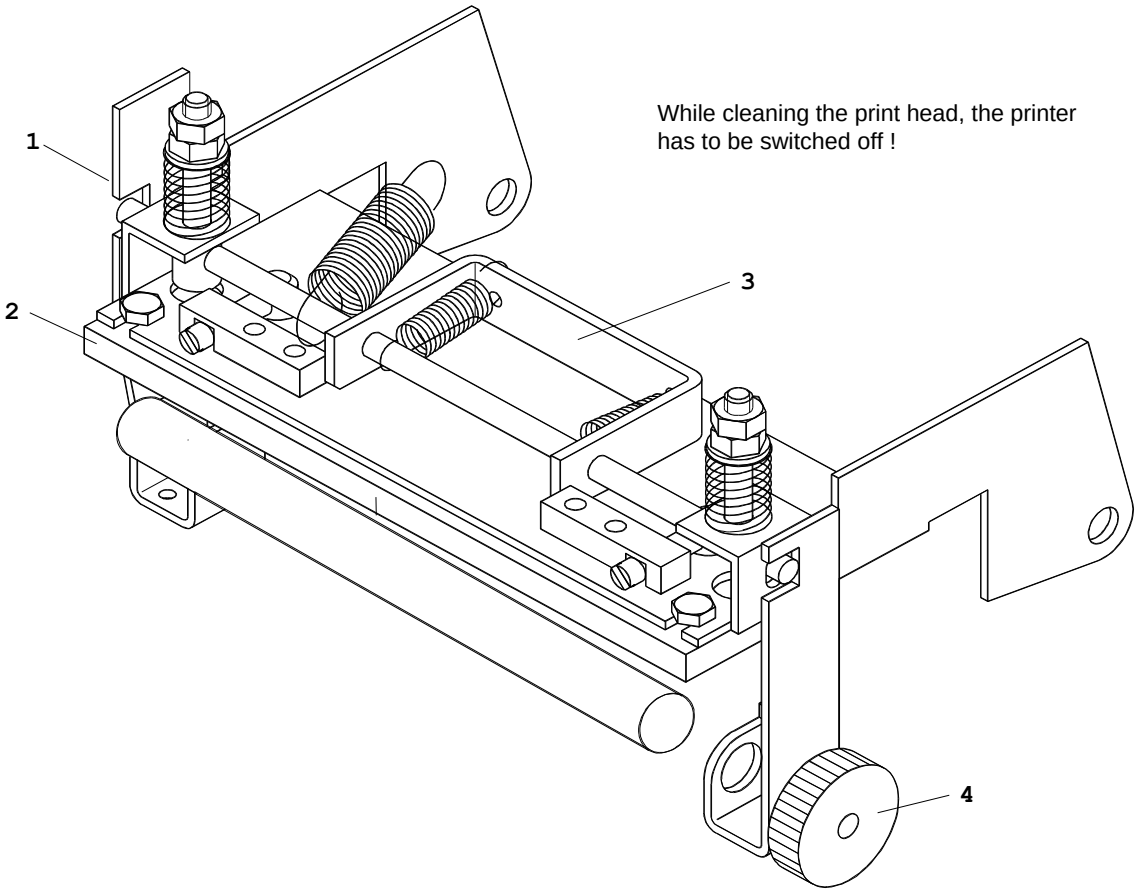
Principally it is advisable and necessary to clean the printhead in regular intervals depending on the printer's operating hours and its environment (e.g. dust etc.).
With a test print it can be easily found out whether the printhead is soiled or defective.

a) printhead is o.k.



b) printhead is defective/soiled





While cleaning the print head, the printer has to be switched off !

- ▷ Turn up printhead bracket by the rotary button (4) as if loading labels.
- ▷ Press lever (1) to the back.
- ▷ The printhead (2) automatically turns up. If this does not happen please turn up the printhead carefully.
- ▷ Clean the lower surface of the printhead only with dry cleaning solvent. As expedient a close-woven cotton cloth is recommended. In case this procedure is not sufficient the printhead can be cleaned with a special cleaning foil (to be obtained from us).
- ▷ After cleaning clap the printhead down until lever (1) snaps again.

Attention: Scratching, strong rubbing or using rough or hard subjects for cleaning is absolutely to be avoided, as the printhead is very sensitive.

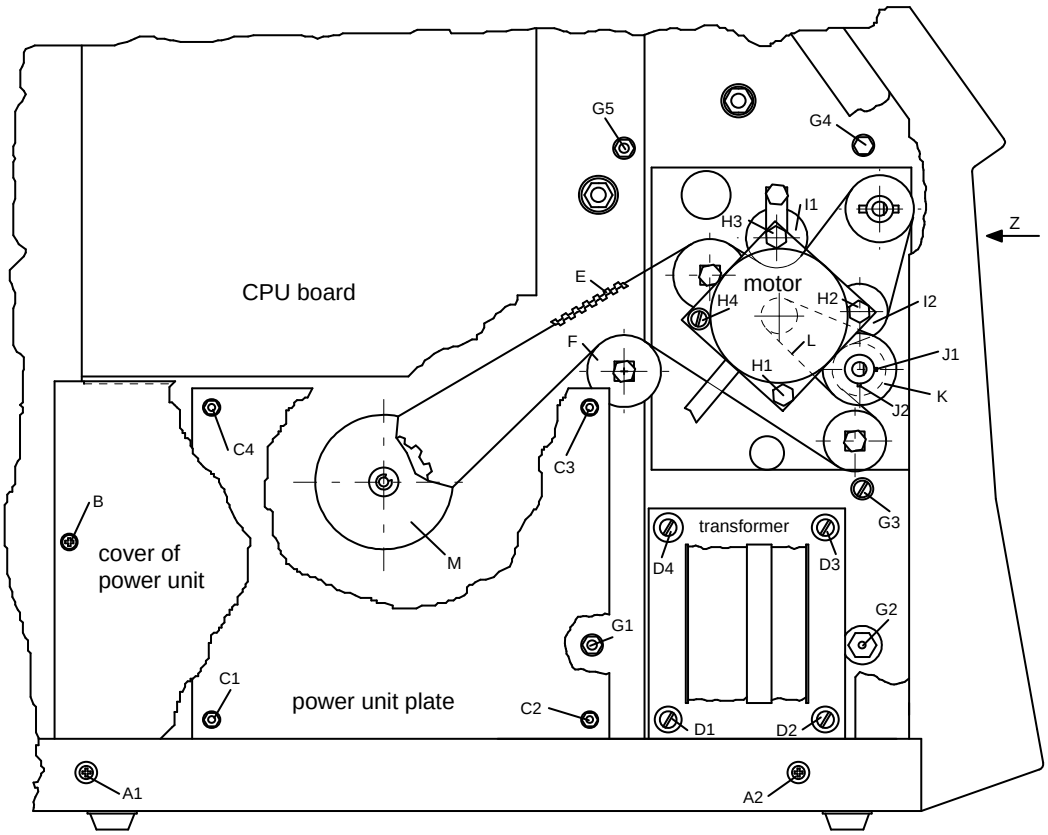
Cleaning of pressure roll:

In certain intervals the pressure roll has to be cleaned with spirit (dust, soil etc.).

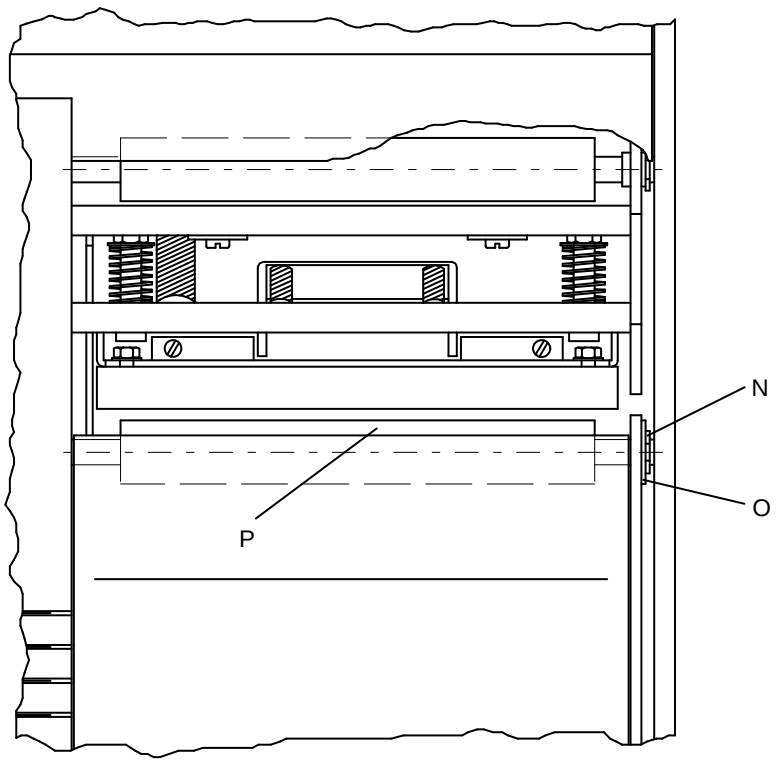
Increase pressure:

In case of insufficient quality of print, pull up lever (3) (e.g. when using carton, thick label material or very small fonts).

3.4. Exchange lower pressure roll



View Z:



In connection with the exchange of the pressure roll, the complete printer mechanics should be oiled and lubricated (see chapter "3.9. To oil and lubricate"), as the lubrication points are free accessible after the following instructing steps.

- ▹ Switch off machine, plug out!
- ▹ After removing screws (A1, A2), take off left cover.
- ▹ After removing 4 screws (B), only one is displayed, take off cover of power unit.
- ▹ Pull off all cable plug connectors from power unit plate.
  Attention: Take notice of the position of plugs for the purpose of reinstallation!
- ▹ After removing nuts (C1 - C4), take off power unit plate.
- ▹ Loosen screws (D1 - D4) and take off transformer.
- ▹ Pull off cable plug connectors JP9 / JP10 / JP12 / JP14 / (JP11) from CPU board.
  (Specifications see circuit board and cable)

  Attention: In spite of specification take notice of the position of the plugs for the purpose of reinstallation!

- ▹ Pull off cogged belt (E) from return pulley (F) and remove it from rewinder (M).
- ▹ After removing the hexagonal head screw take off return pulley (F). Therefore hold return pulley at the opposite side and take it off, too.
- ▹ After removing nuts and screws (G1 - G5) take off the complete print mechanics to the right hand side.

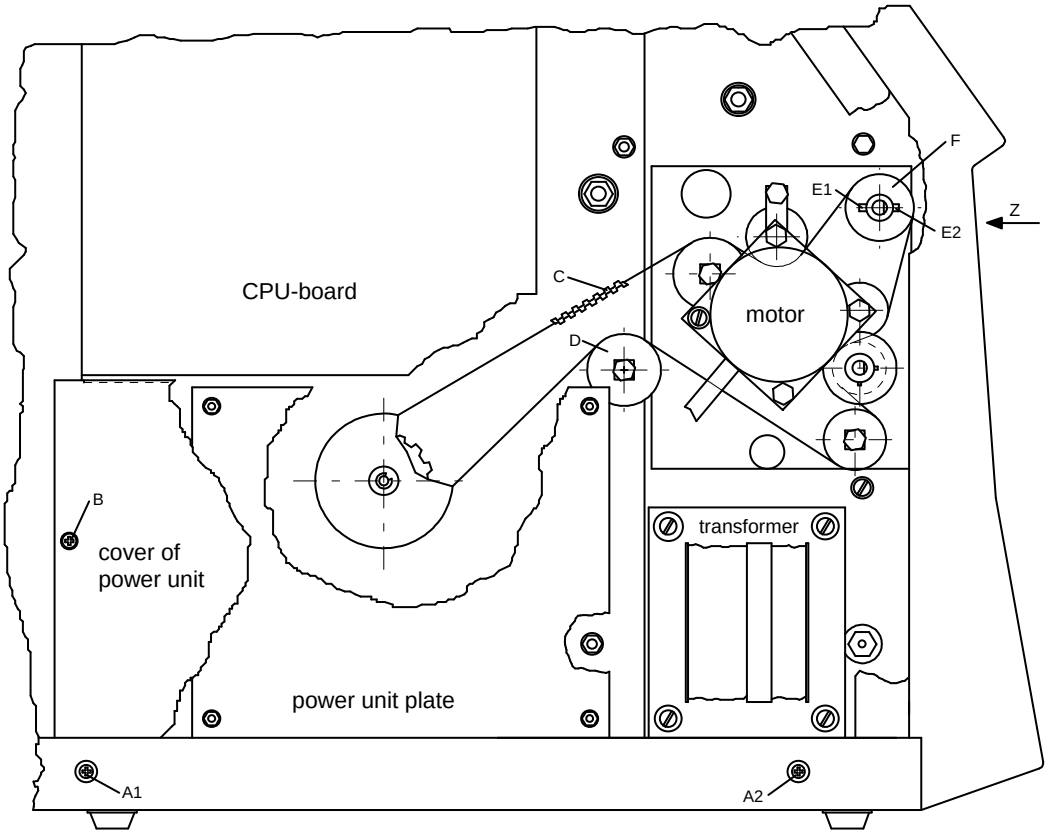
  Attention: While screwing off the nuts and screws pay attention to the print mechanics, so it won't fall down.

- ▹ After removing screws (H1 - H4) take off the motor. Thereby remove short cogged belt (L).
  Attention: While taking off the motor, the two Delrin belt drives (I1, I2) will be loosened.
- ▹ Loosen locking screws (J1, J2) and take out pair of belt drives (K) with spacer piece and ball bearing.
- ▹ Take off locking washer (N) and ball bearing (O) on the other side of the shaft. Then take out downwards pressure roll (P) of the print mechanics.
- ▹ As much as possible clean the ball bearing in dry cleaning solvent and then lubricate new!
- ▹ Oil and lubricate the complete print mechanics according to chapter "3.9. To oil and lubricate".
- ▹ If necessary the upper ribbon tension roll can be exchanged at the same time according to chapter "3.5. Exchange upper ribbon tension roll".

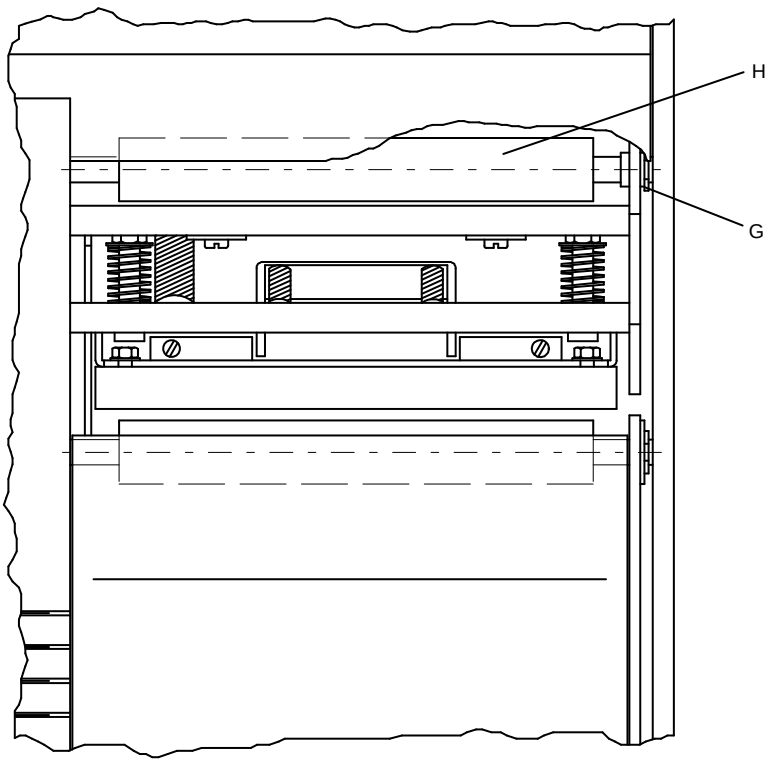
Installation:

- ▹ Installation of the new roll and reinstallation of all components in opposite order.
- ▹ Regard that locking screw (J1) meets milled surface of the roll.

3.5. Exchange upper ribbon tension roll



View Z:

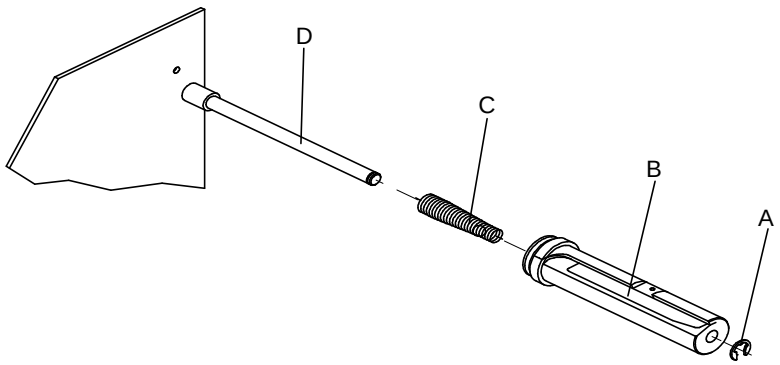


- ▷ Switch off machine, plug out!
- ▷ After removing screws (A1, A2), take off left cover.
- ▷ After removing 4 screws (B), only one is displayed, take off cover of power unit.
- ▷ Pull off cogged belt (C) from return pulley (D).
- ▷ Loosen locking screws (E1, E2) and pull off belt drive (F) with belt, spacing washer and ball bearing from the shaft.
- ▷ Take off locking washer (G) on the other side of the shaft.
- ▷ Take out tension roll (H) of the print mechanics.
- ▷ As much as possible clean ball bearing in dry cleaning solvent and then lubricate new.

Installation:

Installation of the new roll and reinstallation of all components in opposite order.
Attention: Take notice of the correct fit of the cogged belt (C)!

3.6. Exchange of ribbon unwinding roll

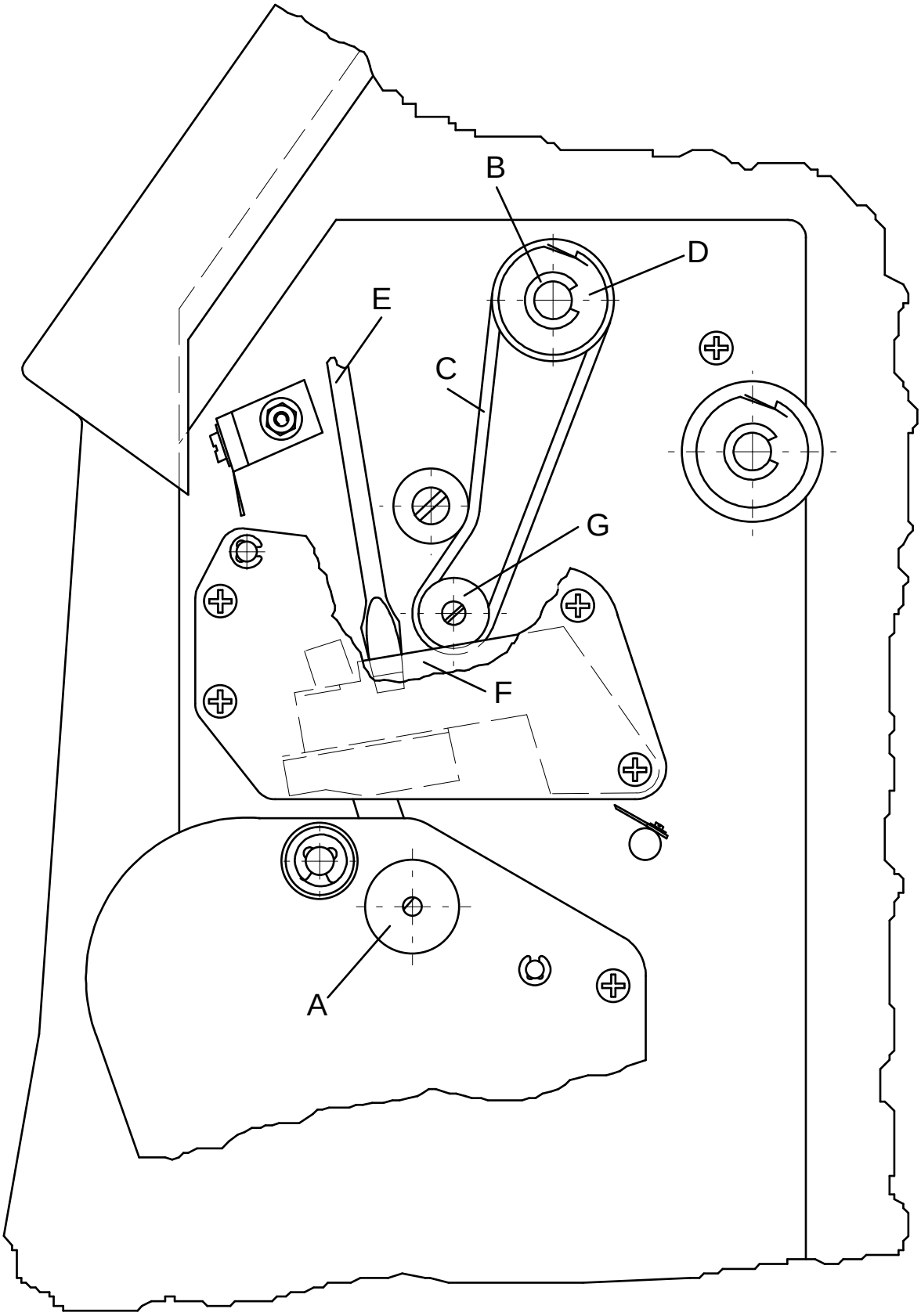


- ▷ Switch off machine, plug out!
- ▷ Take off locking washer (A).
- ▷ Turn roll (B) clockwise and pull it outwards the pillar (D) at the same time.
  Attention: Danger of injury at thin spring steel plate.
- ▷ In case spring (C) remains in unwinding roll, pull it outside with rotary motion at the same time.

Installation:

- ▷ Lubricate pillar (D) and push spring approx. to the middle of the pillar (if possible a new one).
- ▷ Lubricate spring from outside.
- ▷ Turn the ribbon unwinding roll by clockwise rotations onto the spring.
  After approx. 10 rotations press the roll far inside and fix locking washer.

3.7. Exchange of O-belt



- ▷ Switch off machine, plug out!
- ▷ Open right cover.
- ▷ By turning the knurled knob (A) counter clockwise, press down the printhead.
- ▷ Take off locking washer (B).
- ▷ Pull off O-belt (C) from ribbon unwinding roll (D) and take it out.
- ▷ Carefully lever the printhead bracket (F), according to the sketch with screwdriver (E) (e.g. size 6) to the front.
- ▷ At the same time pull off manually or with a second screwdriver O-belt from synchroflex drive (G).

Installation:

Installation of the O-belt in opposite order.

Attention: Lever away printhead bracket (F) just as much as necessary, so nothing gets bent.
Pay attention to the correct running of the O-belt (see sketch).
No lubricant onto O-belt (if necessary clean it).

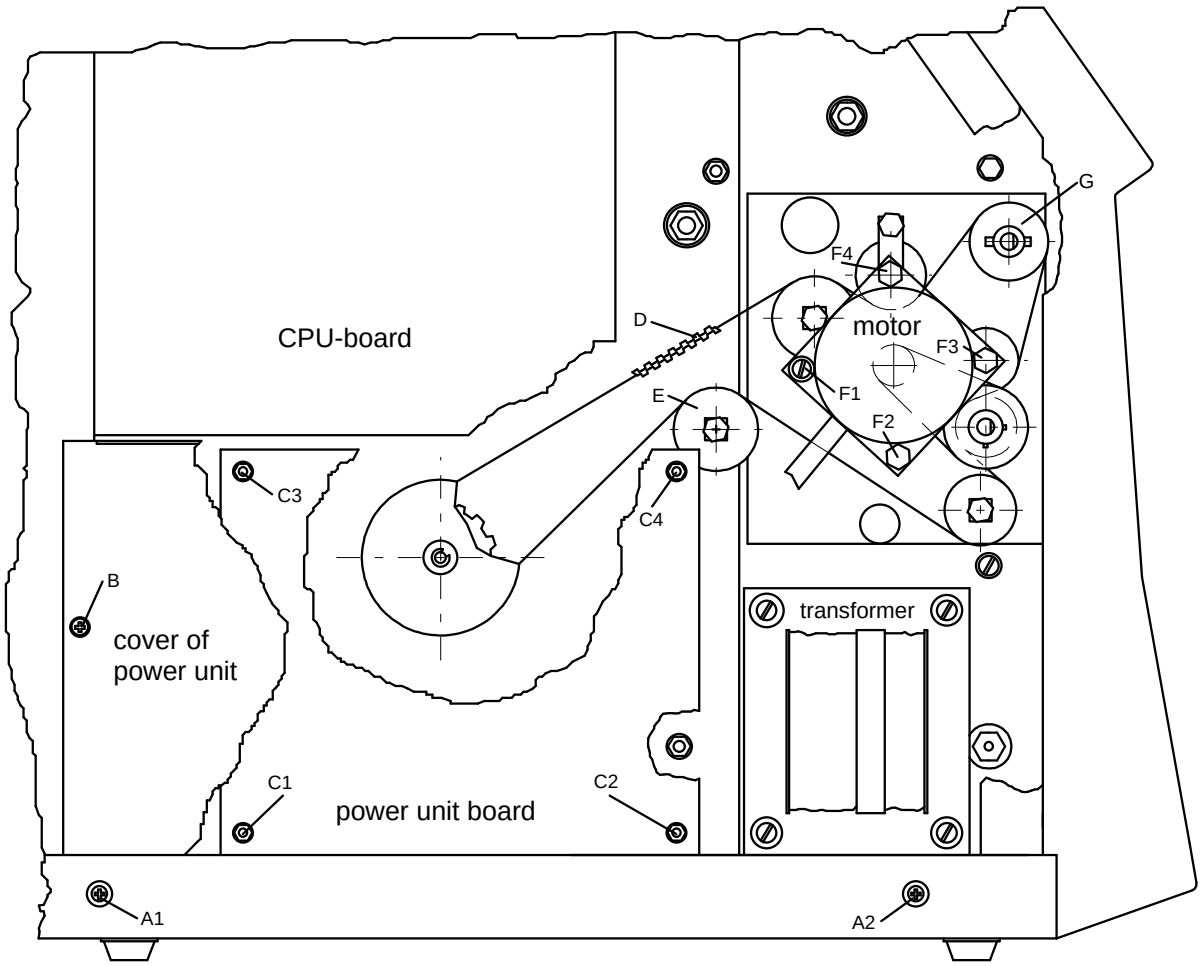
3.8. Exchange of cogged belt

The printer had been delivered in several versions. The difference is the running of the belt. Following the different versions are shown in picture. The steps to exchange a belt are as much the same, so they will only be described detailed for the standard version.

Note: In the need of spare parts the versions 1-3 should be converted to version 4 (standard)!

3.8.1. Standard (version 4)

since august '93



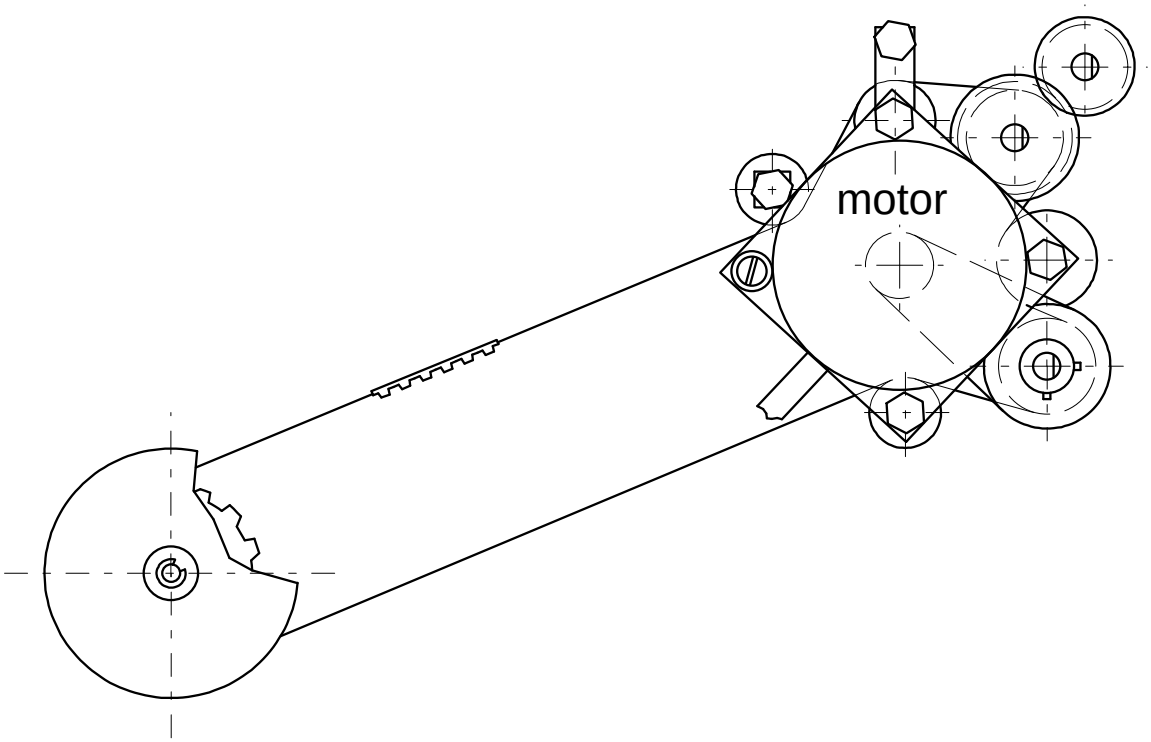
- ▷ Switch off machine, plug out!
- ▷ After removing the screws (A1, A2), take off the left cover.
- ▷ After removing 4 screws (B), only one is displayed, take off cover of power unit.
- ▷ Pull off all cable plug connectors from the power unit plate.
  Attention: Take notice of the position of the plugs for the purpose of reinstallation!
- ▷ After removing the nuts (C1 - C4) take off power unit plate.
- ▷ Remove defect cogged belt (D).
- ▷ After removing screws (F1 - F4) take off motor. Thereby take off short cogged belt.
- ▷ Pull off belt drive (G) from shaft after screwing off the two locking screws.
- ▷ Take off cogged belt (D).

Installation:

Installation of new cogged belt and reinstallation of all components in opposite order.
Attention: Take notice of the correct fit of the cogged belt (D) (see concerning version).

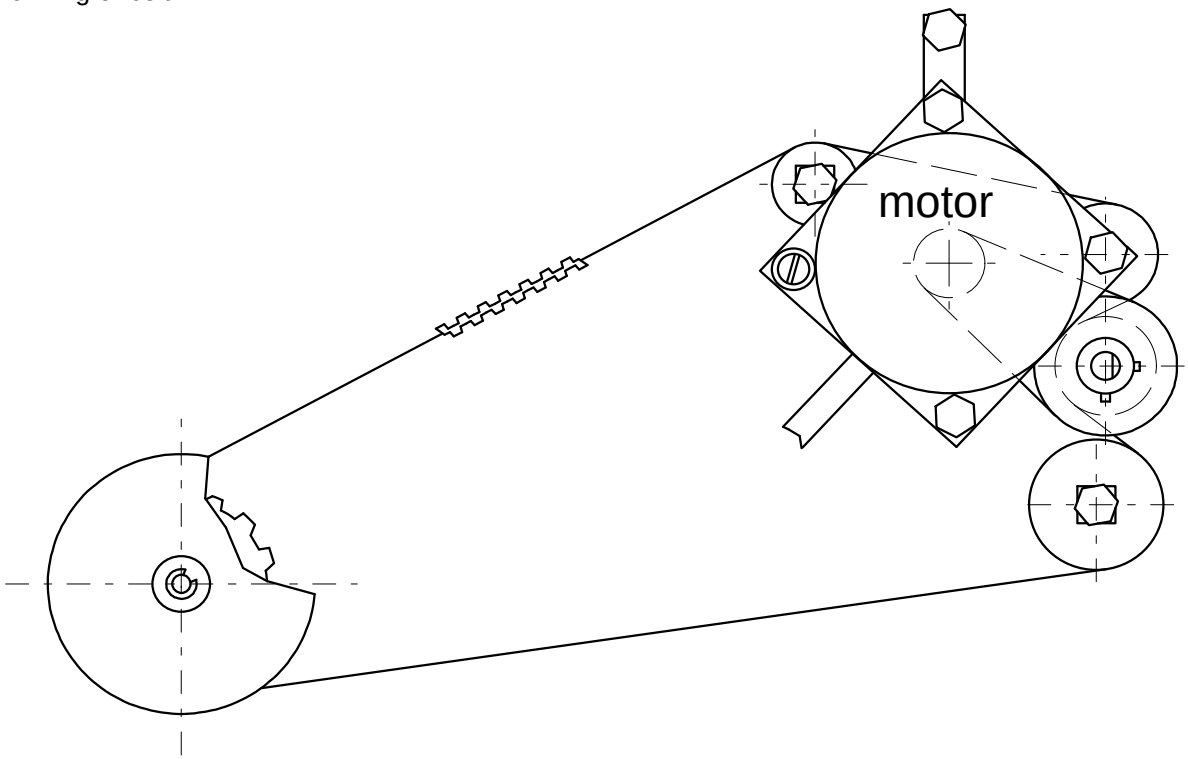
3.8.2. Version: unwinding roll inverse

running of belt:



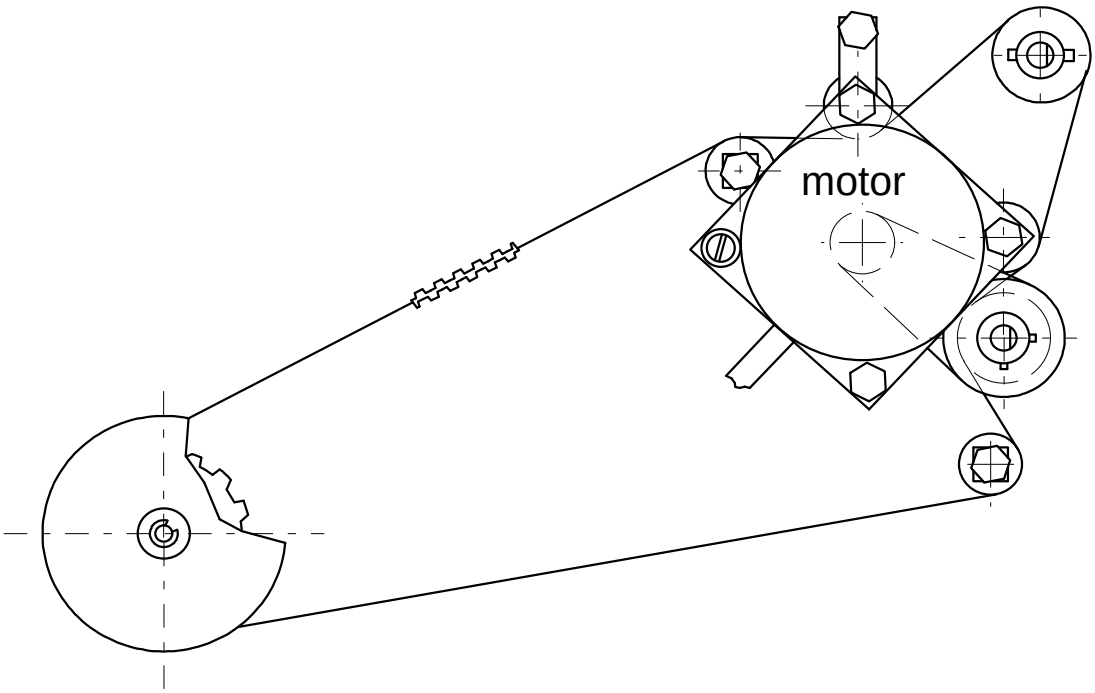
3.8.3. Thermal version

running of belt:



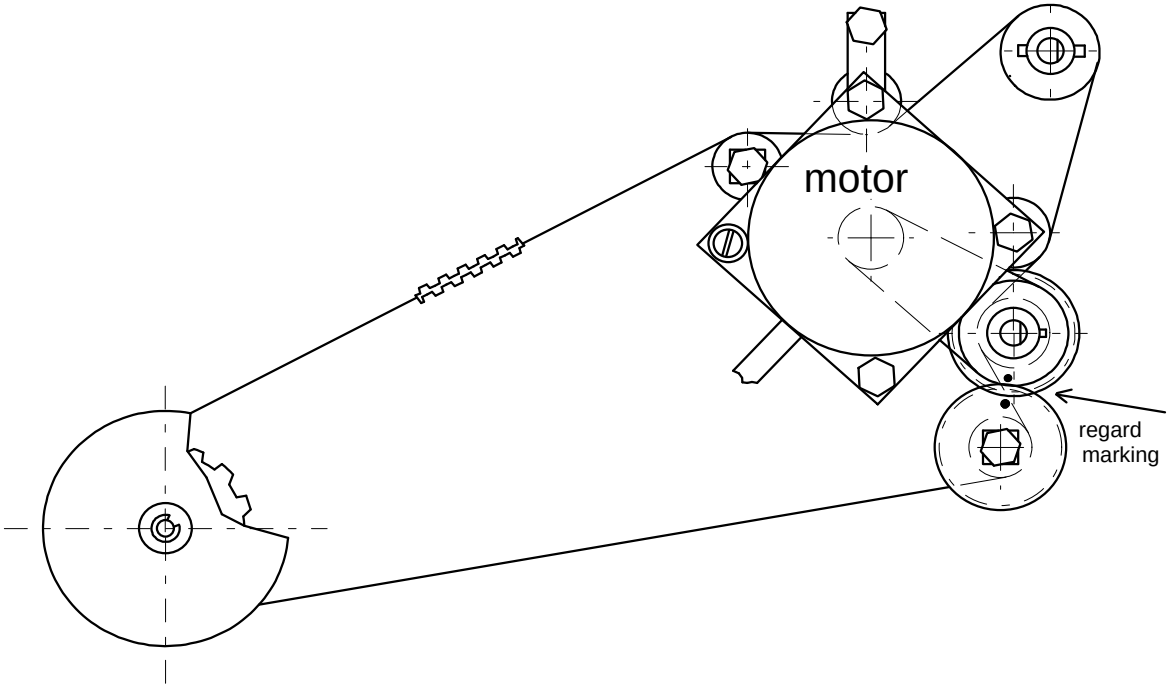
3.8.4. Version 1

running of belt:



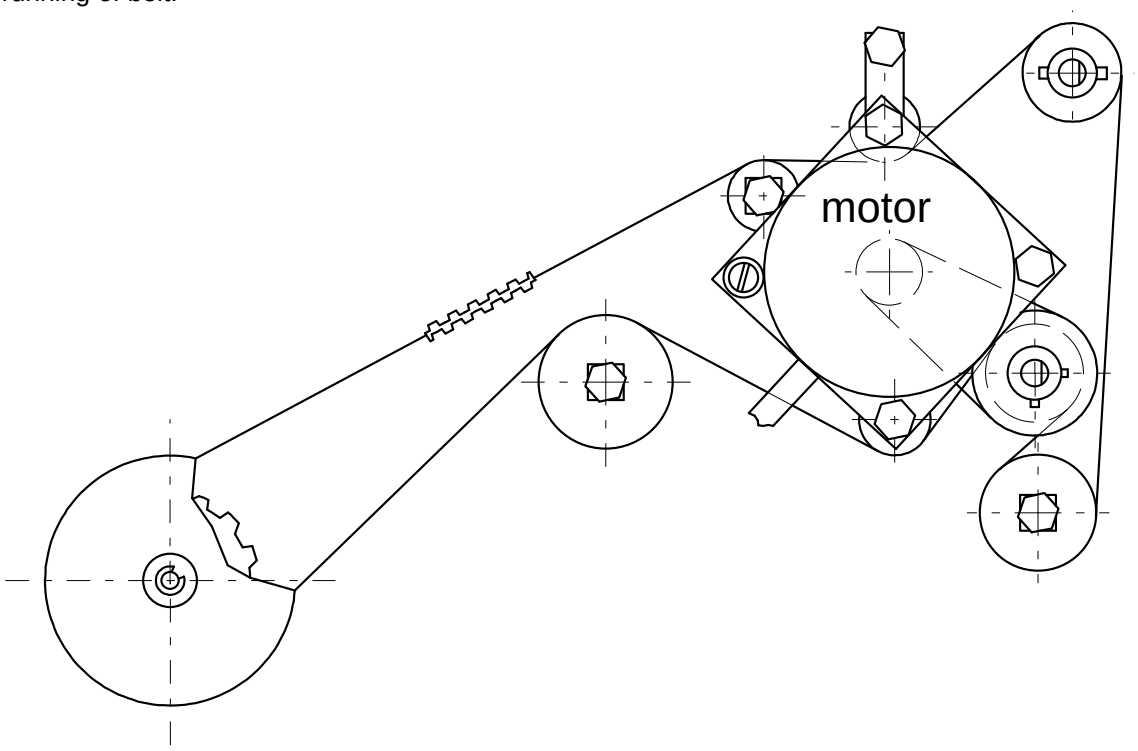
3.8.5. Version 2

running of belt:



3.8.6. Version 3

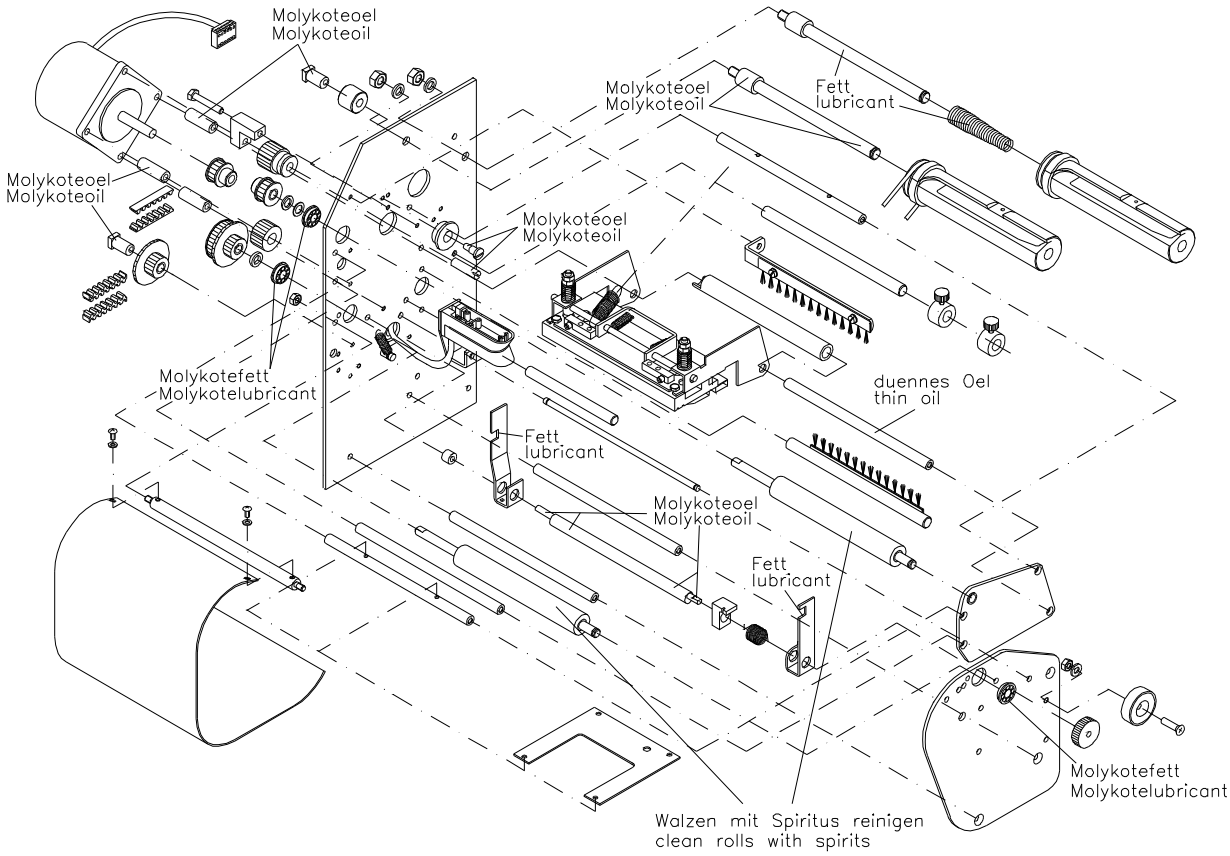
since December '92 until July '93
running of belt:



3.9. To oil and lubricate

Following all oil and lubricate points of the printer are shown:

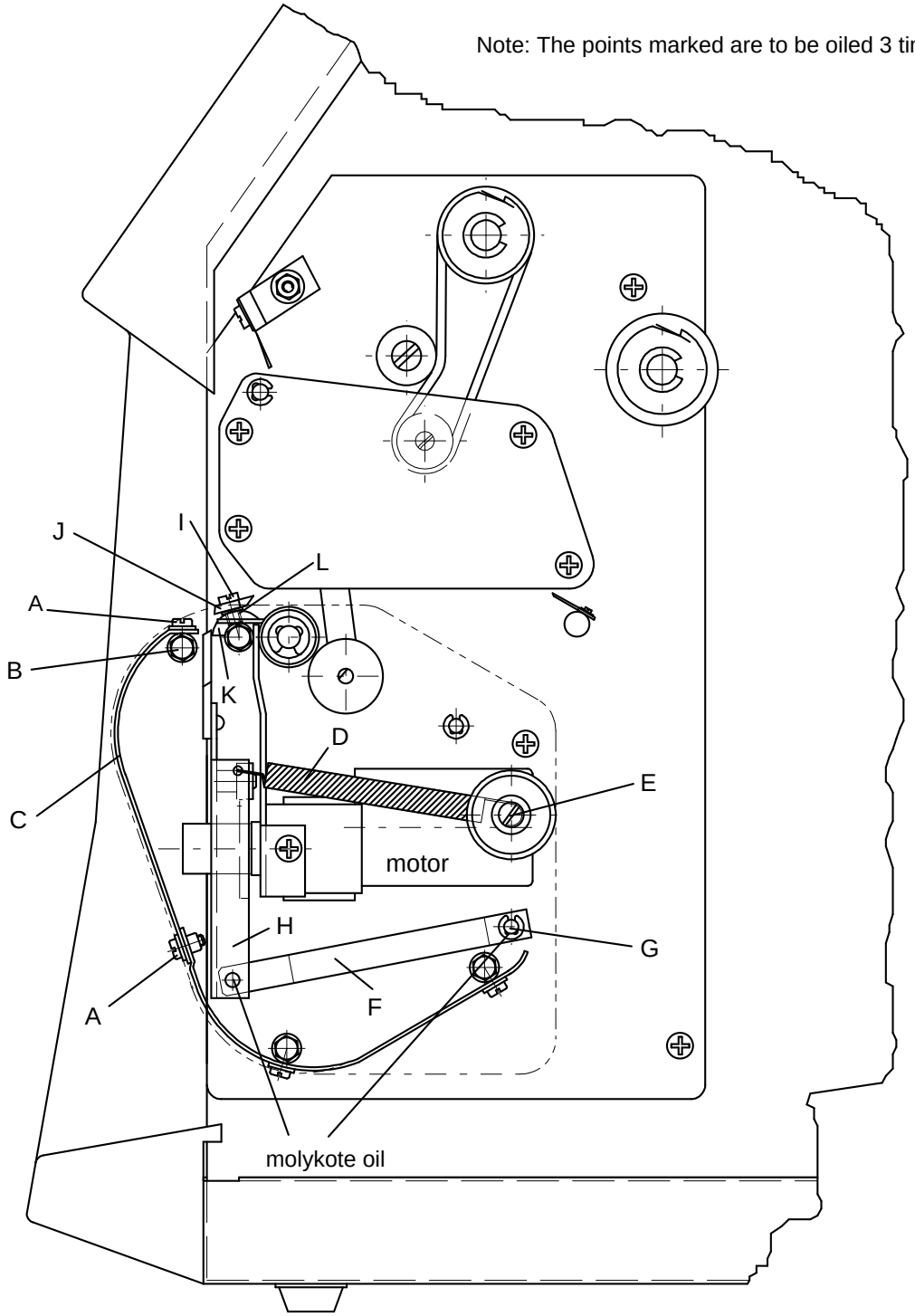
Attention: It is advisable to lubricate and to oil printer completely twice a year.



3.10. Option cutter

3.10.1. Moveable cutter / exchange of cutter ledge

Note: The points marked are to be oiled 3 times a year !



Attention: Danger of injury while working at the cutter!

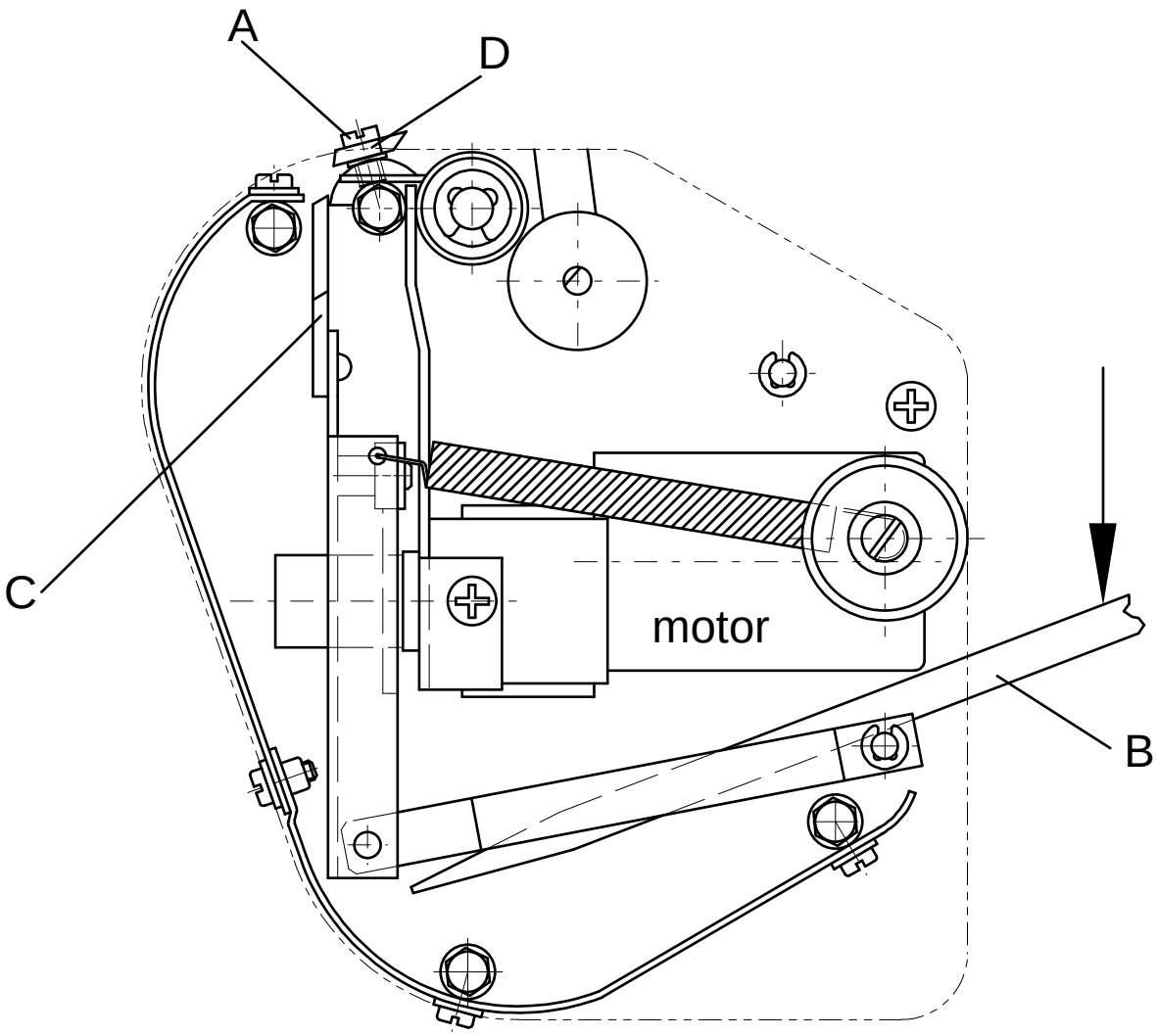
- ▷ Switch off machine, plug out!
- ▷ Open right cover.
- ▷ Remove 4 screws (A) and take off front plate above (C).
- ▷ Remove nut (B) and take off holding shaft.
- ▷ Fix spring (D) at magnetic adjusting screw (E).
- ▷ Take off locking washer of the inner side of bearing lever of cutter (F).
- ▷ Pull bearing shaft (G) outwards.
- ▷ At the same time take off the complete moveable cutter (F + H) to the front.
  Attention: Do not loose 2 spacer rings on the bearing shaft!
- ▷ Remove two screws (I).
- ▷ Take off cutting ledge (J).

  Attention: Pay attention to the position of slide bearing (K) with integrated intermediate (L), in case they will loosen.
  On the right side of the cutter ledge the intermediate loosens, too.
  Pay attention to the position.

Installation:

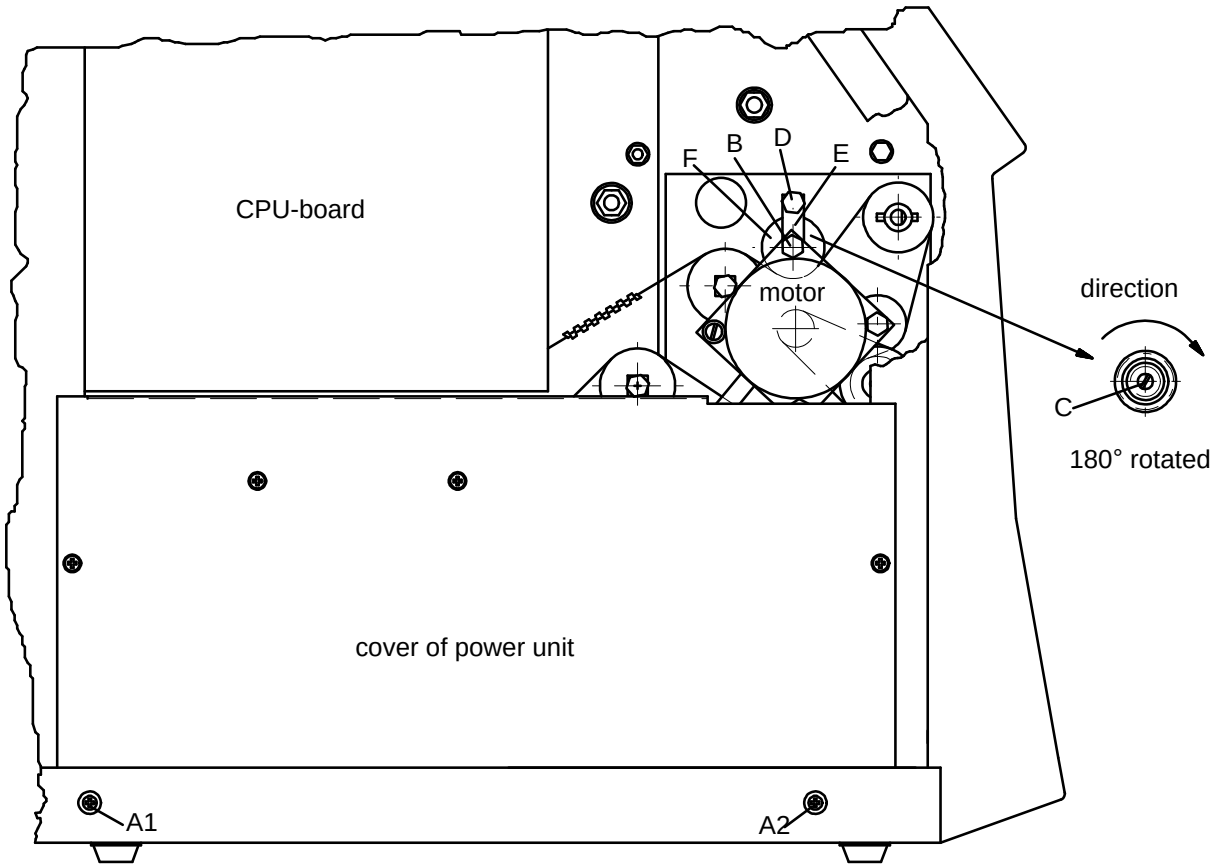
- ▷ Install (sharpened) cutter in opposite order.
- ▷ Adjust cutter according to chapter "3.10.2. To adjust cutter".

3.10.2. To adjust cutter



- ▹ Switch off machine, plug out!
- ▹ Open right cover.
- ▹ Loosen 2 screws (A) about 1 rotation.
- ▹ Insert screwdriver (B) according to sketch. (control: While pressing down the screwdriver the moveable cutter (C) has to move upwards.)
- ▹ Press down screwdriver, so the left upper edge of the moveable cutter (C) stands about 0,5 mm above the lower edge of the cutting ledge (D).
- ▹ Move the cutting ledge (D) towards the moveable cutter (C) and fix both screws (A) again.
- ▹ Insert a piece of paper or label and check with the screwdriver, if the cutter cuts correctly. If not, repeat the steps.

3.10.3. Exchange of synchroflex drive



- ▹ Switch off machine, plug out!
- ▹ Take off left cover upwards after removing both screws (A1, A2).
- ▹ Remove screw (B), thereby hold bed bolt (C) with a slotted screwdriver on the opposite side.
- ▹ Remove screw (D) together with bracket (E).
- ▹ Take out synchroflex drive (F), whereby at the same time you have to take off the O-belt from the driving gear on the inner side of the print mechanics.

Installation:

- ▹ Installation of the new drive and reinstallation of all components in opposite order.
- ▹ While installing pay attention to the correct fit of the belts.
- ▹ Insert the synchroflex drive centric into the boring provided for, otherwise it will grind.

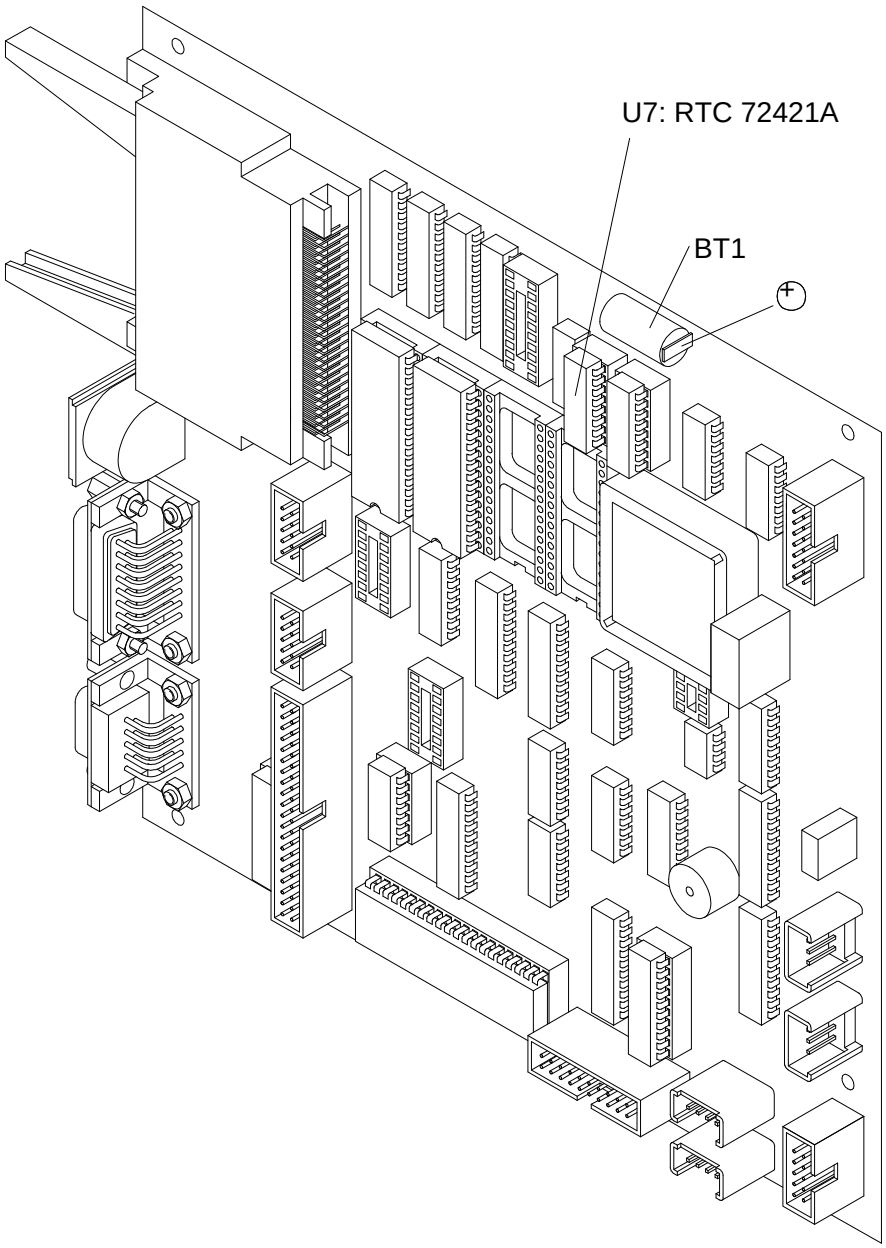
Attention: The integrated grooved ball bearing has to catch the cogged belt drive clockwise (according to the sketch)
Otherwise place cogged belt drive with bearing the other way around!

3.11. Option dispenser

In case a label has been winded-up around the pressure roll, it **may not be scratched off with a knife**. The label has to be torn off manually as much as possible, and possibly remains of adhesive have to be wiped off with spirit. The roll may not be damaged on its surface.

How to load labels in dispensing mode see the corresponding operating manual.

3.12. Option date / time

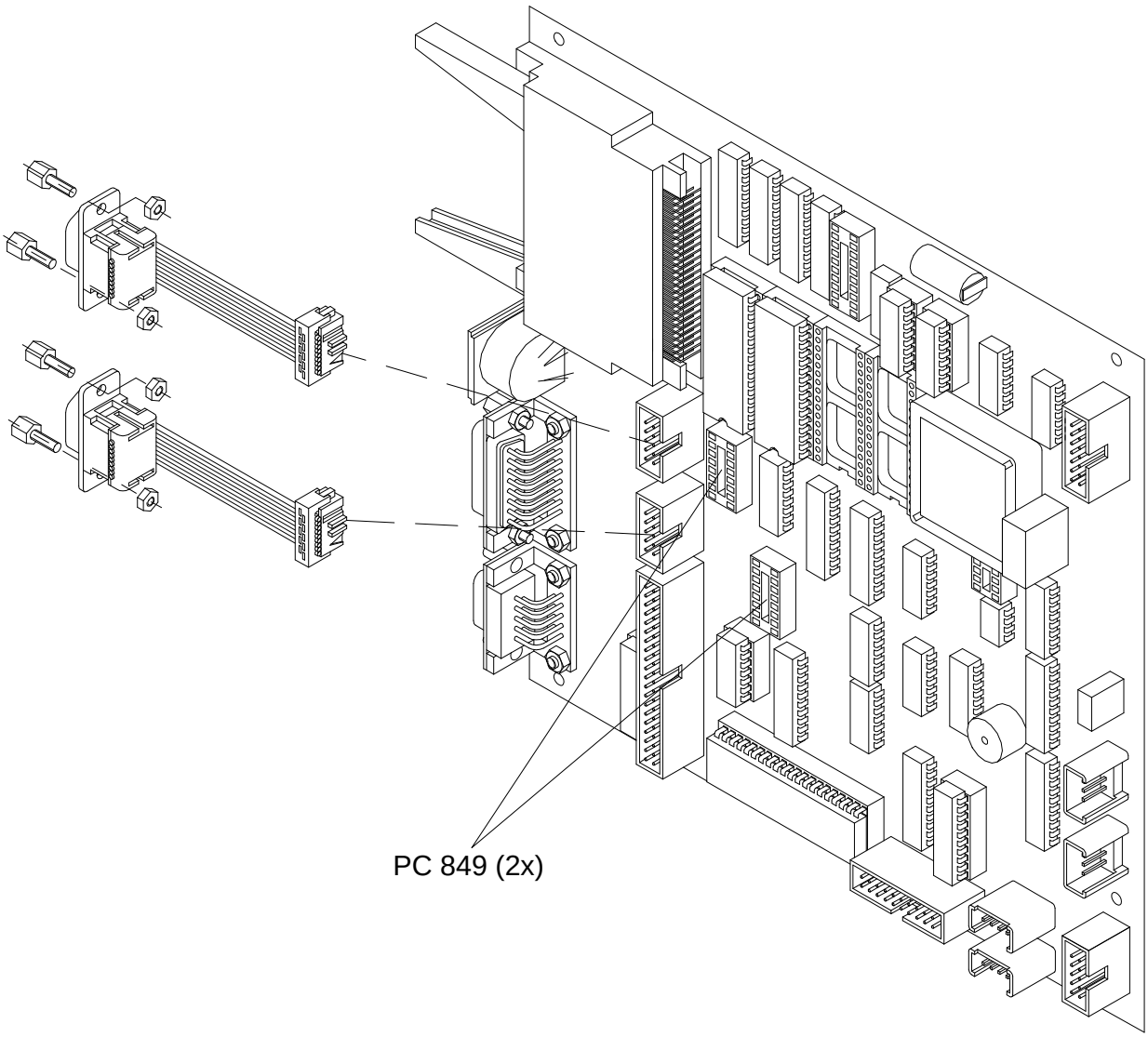


Installation:

- ▹ Switch off printer and remove CPU.
- ▹ Insert IC U7 (RTC 72421A) in therefore provided socket. Hereby pay attention to correct positioning.
- ▹ When soldering in battery pay attention to direction of polarization.
- ▹ Reinstallation of CPU.

Attention: Use only original parts.

3.13. Option external inputs / outputs



Installation:

- ▷ Switch off and open printer.
- ▷ Remove cover sheet on rear panel (cutout for I/O plug).
- ▷ Installation of I/O-plug, whereby the plug has to be installed below and the socket above.
- ▷ Insert IC PC 849 in socket.
  Attention: U 21 has to be adjusted differently from U 22 (see PIN 1 of socket).

Attention: Use only original parts.

4. Possible sources of error

4.1. Error messages on the display

error message	possible causes	how to solve the problem
printhead temperature	printhead too hot	wait until printhead has cooled down
line too high	position of line outside of label	place line in a lower position (Y↑) check rotation, font
line too low	position of line outside of label	place line in a higher position (Y↓) check rotation, font
font not installed	selected font not existant	check font and change
character not in font	character not included in font	change font
entry of consecutive numbers	incorrect entry of consecutive numbering	check entry of consecutive numbering and change
magnification code	entered SC factor is invalid	check SC factor and change
width lines or boxes	line projects label rim	change line graphic data
graphic not found on MC	selected graphic not stored on Memory-Card	store the graphic on the Memory-Card
check digit wrong	entered check digit is faulty in check digit control	recalculate check digit check code data
incorrect number of digits	entered number of characters invalid	check code data
incorrect entry of code	mask statement code faulty	check code statement
internal font error	faulty font	Please contact your distributor
label or printhead error	no labels printhead not closed	load labels close printhead

error message	possible causes	how to solve the problem
no Memory-Card	no Memory-Card or not correctly entered	enter Memory-Card
not enough memory	max. storage space of Memory-Card is reached	use a new Memory-Card delete files on Memory-Card that are no longer needed
write protected	"Write Protect"-switch of Memory-Card is "ON"	use a new Memory-Card deactivate write protection
wrong type of Memory-Card	wrong Memory-Card entered (256 K)	check type of Memory-Card and change enter Memory-Card 128 K
label exists already	label name already stored on Memory-Card	change label name
no label exists	label name not stored on Memory-Card	search through the contents of the Memory-Card and select the desired name
unknown error	internal storage error on Memory-Card	store data anew use a new Memory-Card
serial EEPROM	max. write cycles reached	change EEPROM
printing active	when copying a Memory-Card hilst print command is active	wait until printer is ready
command statement wrong	invalid command statement	check command statement and change
overrun	receiving byte is written though it has not been cleared yet	transmit anew Please contact your distributor
framing	wrong Baudrate	check Baudrate and change
parity	wrong parity	check parity and change
incorrect password	entered code is not correct entered code when formatting a Memory-Card is not correct	enter correct code enter correct code

error message	possible causes	how to solve the problem
number of lines	in printing mode "continuous labels" number of lines too low	correct number of lines
interface protocol	incorrect setting of SOH and ETB	change interface protocol
ribbon or printhead error	no transfer ribbon printhead not closed	load transfer ribbon close printhead
cutter errot	no cutter available cutter will not be switched off (cutter photocell or micro-switch are defective)	print mode "Cutter OFF" or connect cutter Please contact your distributor
power failure please wait	loss of voltage supply	check power line and surroundings
no RTC installed	no RTC ram	add RTC ram
RTC-mode	RTC entry incorrect	check RTC entry and change
RTC-format string	RTC format string faulty	check RTC format string and change
dispenser photocell defect or not connected	defective dispensing photocell dispensing photocell not connected	exchange dispenser photocell connect photocell

4.2. General errors

Generally speaking in case of an error you should check, if all fuses are in order (see chapter "2.4. Changing of fuses").

error message	possible causes	how to solve the problem
bad or wrong printout	contrast adjusted wrong	adjust contrast in menu item "Printer parameters"r"
	printhead or pressure roll sticky / dirty	clean with methylated spirits
	printhead defective, pressure roll is run in	exchange defective parts see chapter "3.1." and "3.4"
	driver module defective	exchange U24
	single dots are missing	exchange or clean printhead
	printhead is badly adjusted	adjust printhead see chapter "3.2. Adjustment of printhead"
no print	incorrect voltage supply	measure voltage of printhead, eliminate error
	driver module defective	exchange U24
no data transmission	interface module defective	RS232: exchange U37 Centronics: exchange U43 or / and U36
	interface protocol adjusted wrong	correct interface protocol
	Baudrate adjusted wrong	check adjustment of Baudrate (sender and receiver have to be adjusted the same)
	interface cable (external) defective res. wrong	check cable
Memory-Card will not be read / does not snap in	snap fastener at plug-in defective	exchange Memory-Card pedestal U9
no data onto Memory-Card	battery empty	exchange battery order-no.: 27.02.002
wrong entry via external keyboard	keyboard defective	exchange keyboard
display is dark (although printer runs)	display defective	exchange display
	activation wrong voltage supply is missing	exchange U49
		check fuses and supply line

error message	possible causes	how to solve the problem
no entry possible via foil keyboard	foil keyboard defective	exchange foil keyboard
	flex print harness of foil keyboard is not plugged in correctly	insert cable carefully in JP15
	earthing strap is not connected	connect earthing strap
transport irregular / labels run through without stopping	photocell dirty	clean photocell
	photocell defective	exchange photocell see chapter "2.1.3. Photocells"
	photocell adjusted wrong	
no transport of labels	cogged belt torn	exchange cogged belt
	motor res. motor activation defective	check motor see chapter "2.1.6. Motor signals"
labels are not rewinded	cogged belt torn	exchange cogged belt
	sliding clutch in rewinding roll adjusted too weak	adjust sliding clutch
ribbon is not rewinded	cogged belt torn	exchange cogged belt
	O-belt torn	exchange O-belt
	O-belt drive defective (only cutter !)	exchange drive
ventilator is not running	ventilator defective	exchange ventilator
	voltage missing	emeasure voltage, eliminate error
RTC is not running	battery defective	exchange battery
	RTC defective	exchange RTC
cutter does not cut (correctly)	cutter adjusted wrong	adjust cutter see chapter "3.10.2. To adjust cutter"
	cutting edge blunt	exchange cutter
	cutter dirty	clean cutter
	photocell (cutter) dirty or defective	clean or exchange photocell
	motor defective	exchange motor
label dispenser is not working	dispensing photocell dirty / defective	clean / exchange dispensing photocell
	control input defective	exchange U21
	label transport defective	see above: 'no label transport'

It is recommended to test the printout from time to time to check if all dots are working properly.